



The Power Behind Competitiveness

# Delta RPI-M50A

Grid-Tied Solar Inverter  
RPI-M50A



## Product Features

- Transformerless Inverter
- Dual MPP Trackers
- Peak Efficiency up to 98.6%
- Connects up to 10 Strings
- Ergonomic Grip Design
- Ultra Compact Size
- Built-in Energy-logger
- IP65 Protection Level
- Built-in AC/DC Switch

[www.deltaelectronicsindia.com](http://www.deltaelectronicsindia.com)



**DELTA**  
Smarter. Greener. Together.

# Delta RPI-M50A

The smallest & lightest 50 kW string inverter in the world.

Delta's latest revolutionary design "RPI-M50A" transformerless PV inverter is the lightest, smallest, and first wall mount-able 50KW string inverter in the world. With such compact size and light weight, RPI-M50A offers more design flexibility for all sizes of PV plants. IP65 enclosure provides higher level of protection and enhances its durability in a harsh outdoor environment.



# Design Features

## Thoughtful Grip Design

Ergonomic grip design gives more convenience while moving the inverter during installation. With special handle protection design, RPI-M50A can be easily placed down on the flat ground vertically without damaging various connectors at the bottom.



(Ergonomic Grip Design)

## Built-in SPD & String Fuses

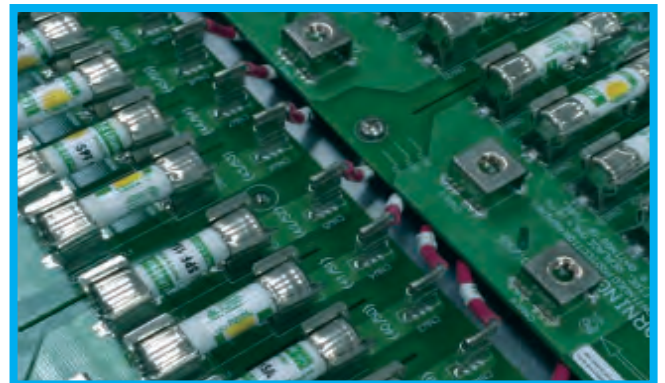
The RPI-M50A comes with built in PV fuse on both the positive and negative strings for all ten inputs. Also the inverter has Type-2 SPD's (Surge Protection Device) for both the DC (One for each MPPT) and AC inputs. Both the PV fuse and SPD's can be replaced. This can bring down the overall PV system costing.



(Surge Protection Devices)

## Outstanding Performance

RPI-M50A comes with a peak efficiency of 98.6 %, guaranteeing better yields and returns on capital cost. The dual MPPT trackers ensure no compromise over shading losses and can accommodate PV arrays with different orientations.



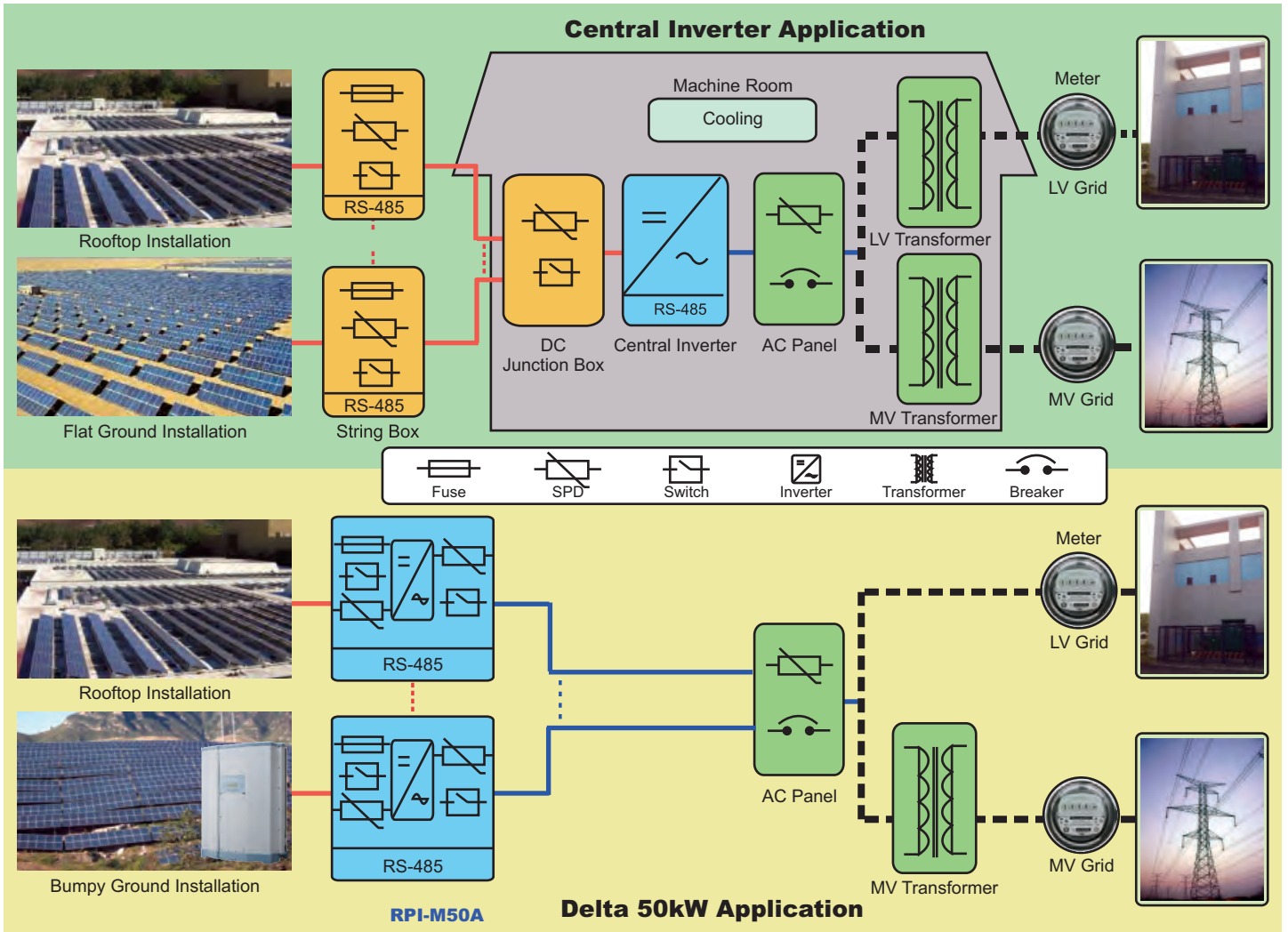
## Protection Features

### AC/DC Safety Switch

Integrated AC/DC switch makes maintenance and trouble shooting easy.



# PV System Comparison



## Savings with RPI-M50A

### Saving on System Cost :

Holistic design with built-in AC/DC switch, PV fuse and SPD's.

### Saving on Space Cost :

Thanks to the IP65 rating of the RPI-M50A, it can be mounted outdoors thereby reducing costs associated with control rooms for central inverters.

### Saving on DC Cable Cost :

The RPI-M50A can be mounted close to the PV panels which brings down the associated DC cable costs and DC cable losses which improves overall system efficiency.

### Dual MPPTs :

Two independent trackers ensure maximum yields even during partial shading of a string. This also helps in accommodating different string orientations within a system.

# Delta RPI-Commercial Series

## Technical data RPI-M50A

INPUT (DC)	RPI-M50A
Max. DC Power	62.5 kWp
Max. Input Voltage	1000 V
DC Voltage Range	200 - 1000 V
MPPT Voltage Range	520 - 800 V
Start-up Voltage	> 250 V
Nominal DC Voltage	600 V
Max. Input Current per MPPT	50 A
Total Input Current	100 A
No. of Independent MPP Trackers	2
Unbalanced Input (%)	33 / 67
Input Connection Type	10 pair MC4
DC Disconnection Switch	Yes (Inbuilt)

OUTPUT (AC)	
Rated Output Power	50 kVA
Max. Output Current	76 A
Nominal AC Voltage	3 Ph, 400 V
AC Voltage Range	400 V $\pm$ 20 % (320~480)
Nominal Frequency	50 Hz
Frequency Range	45 Hz - 55 Hz
Power Factor at Rated Power	Unity
Reactive Power (Adjustable)	0.8 Lagging ~ 0.8 Leading
THD	<3% at Rated Power
No. of Conductors (user settable)	4/5 Wire (L1,L2,L3,N,PE)

EFFICIENCY	
Maximum Efficiency	98.60%
Euro Efficiency	98.40%

PROTECTION	
AC/DC Disconnection Switch	Yes
Ground Fault Monitoring / Grid Monitoring	Yes
DC Reverse Polarity Protection	Yes
DC Over Voltage / Current Limitation Protection	Yes
DC Short Circuit Protection	Yes
DC String Fuse (Positive & Negative)	Yes, PV Fuse - 1000V, 15A
AC Short Circuit Protection	Yes
AC Over Voltage / Current Limitation Protection	Yes
Surge Protection - Inbuilt	Yes, Type 2 DC - (One for each MPPT) & AC input

GENERAL DATA	RPI-M50A
Dimension (H/W/D)	740 x 612 x 278 mm
Weight (kg)	70
Operating Temperature Range	- 25 °C to + 60 °C (Full Power - 20 °C to + 40 °C)
Relative Humidity	0~100%, Non-condensing
Operating Elevation	< 2000 m
Degree of Protection	IP65
Noise Level (Typical)	<65 dB (1m Front Panel)
Self Consumption at Night	< 2 Watts

### SAFETY/STANDARDS

Anti-islanding Protection / Grid Regulation	VDE-AR-N 4105; VDE 0126-1-1
EMC	EN 61000-6-2; EN 61000-6-4
Safety	IEC 62109-1/-2
Efficiency	IEC 61683:1999
Environmental Testing	IEC 60068-2-1; IEC 60068-2-2; IEC 60068-2-14; IEC 60068-2-30; IEC 60068-2-6; IEC 60068-2-21; IEC 60068-2-27; IEC 60068-2-75; IEC 60068-2-78 (As Per MNRE and SECI Requirement)
Ingress Protection	IEC 60529

### COMMUNICATION

Communication Interface	MODBUS RTU over RS 485 Physical Layer
Graphical Display	20 X 4 LCD
Built-in Energy Data Logger	Yes
Emergency Power Off (EPO)	Yes, External Switch to be Connected

### WARRANTY

Standard Warranty	5 Years
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### Note

- 1 For Thin-film Module Operation (Negative / Positive Grounding), Separate Isolation Transformer is Required at the Grid Interface of Inverter.
- 2 Mating MC4 Connectors Shall Not Be Part of Standard Supply.
- 3 Parallel Operation of Inverters is Possible For Large Power Plants.
- 4 Please Refer to our Standard Warranty Terms and Conditions For Details.

**For Any Sales / Application Engineering Support, Please Contact :**

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